IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(MBHB Docket No. 06-543)

In the Application of:	)	
	)	
Chi-Lie Wang, et al.	)	
	)	**Examiner: Richard Chang**
Serial No.: 09/916,715	)	
	)	**Art Unit: 2416**
Filed: July 27, 2001	)	
	)	**Confirmation No.: 8232**
For: Network Interface Supporting of Virtual Paths for Quality of Service With Dynamic Buffer Allocation	)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION TO WITHDRAW HOLDING OF ABANDONMENT UNDER 37 C.F.R. § 1.181(a)

On November 20, 2007, the Office mailed a Notice of Abandonment for the above-referenced application indicating that Applicant has failed to timely file a proper reply to the Office letter mailed on April 20, 2007. However, Applicant had timely filed a Response to Notice of Noncompliant Amendment on May 14, 2007 ("the Response"), which was within the 1 month time limit provided for response. Attached with this petition is EXHIBIT A, which includes a copy, downloaded from PAIR on February 25, 2009, of the electronic filing receipt and the Response filed on May 14, 2007.

Applicant's undersigned representative has had numerous discussions with the Examiners assigned to this application including Examiners Richard Chang, Ricky Q. Ngo and Jason E. Mattis, who have all agreed that the application should not have been abandoned. Thus, because Applicant has filed replies to office communications in a timely fashion, Applicants submit that the above-referenced application was never abandoned. Applicant therefore respectfully requests withdrawal of the holding of abandonment. Should the Office wish to discuss this case, the Examiner is invited to call the undersigned at (312) 913-3305.

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP

Dated: February 25, 2009

By: /Robert J. Irvine III/
Robert J. Irvine III
Reg. No. 41,865

EXHIBIT A

Electronic Acknowledgement Receipt

EFS ID:	1772468
Application Number:	09916715
International Application Number:	
Confirmation Number:	8232
Title of Invention:	Network interface supporting of virtual paths for quality of service with dynamic buffer allocation
First Named Inventor/Applicant Name:	Chi-Lie Wang
Customer Number:	22470
Filer:	Robert Johnson Irvine
Filer Authorized By:	
Attorney Docket Number:	3COM 3715-1
Receipt Date:	14-MAY-2007
Filing Date:	27-JUL-2001
Time Stamp:	16:18:23
Application Type:	Utility

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	06-543-Response_to_Non-Compliant_Amendment.pdf	53179	no	9
Warnings:					

Information:	
Total Files Size (in bytes):	53179

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(MBHB Docket No. 06-543)

In the Application of:		)	
		)	
	Chi-Lie Wang; Li-Jau Yang; Kap Soh; and Chin-Li Mou	)	Art Unit: 2616
		)	
Serial No.:	09/916,715	)	Examiner: Richard Chang
		)	
Filed:	July 27, 2001	)	
		)	Confirmation No. 8232
For:	Network Interface Supporting of Virtual Paths for Quality of Service With Dynamic Buffer Allocation	)	

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Commissioner for Patents
P.O. Box 1450
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RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT MAILED APRIL 20, 2007

Dear Sir:

In the Notice of Non-Compliant Amendment mailed April 20, 2007, the Office noted that the amendment filed April 18, 2007 was non-compliant because the status of each claim was not provided with the proper status identifier. In response, Applicants submit a corrected Amendment to the Claims section correctly identifying the status of each of the claims. No other changes to this section have been made.

The corrected Amendments to the Claims section begin on page 2 of this response.

Arguments/Remarks section begins on page 9 of this response.

I. AMENDMENTS TO THE CLAIMS

1-48. (Cancelled)

49. (New) A method of managing packet transmission in a computer system comprising:

receiving a plurality of packets from a computer host memory, wherein each packet has a header provided by a process running on a host processor;

reading at least one quality of service parameter from the header of each received packet;

storing each received packet into one of a plurality of queues according to the quality of service parameter, wherein each queue has a respective priority, wherein one of the plurality of queues is a high priority queue, wherein each queue of the plurality of queues other than the high priority queue has a corresponding timeout interval, and whereupon expiration of a timeout interval will cause a packet stored in the queue corresponding to the expired timeout interval to be forwarded ahead of packets stored in any other queue; and

forwarding each received packet to a network medium according to both the priority of the queue in which the packet was stored and any expired timeout interval.

50. (New) The method of claim 49 wherein receiving a plurality of packets from a computer host memory is performed by a Direct Memory Access download engine.

51. (New) The method of claim 49 wherein storing each received packet into one of a plurality of queues comprises:

storing high priority packets into the high priority queue; and

storing low priority packets into a low priority queue.

52. (New) The method of claim 49 wherein storing each received packet into one of a plurality of queues comprises:

storing high priority packets into the high priority queue;

storing intermediate priority packets into an intermediate priority queue; and

storing low priority packets into a low priority queue.

53. (New) The method of claim 49 wherein forwarding each received packet according to both the priority of the queue in which the packet was stored and any expired timeout interval comprises:

preempting packet forwarding from the high priority queue and forwarding a packet stored in a lower priority queue when the timeout interval corresponding to the lower priority queue has expired.

54. (New) The method of claim 49 wherein forwarding each received packet according to both the priority of the queue in which the packet was stored and any expired timeout interval comprises:

preempting packet forwarding from one or more higher priority queues and forwarding a packet stored in a lower priority queue when the timeout interval corresponding to the lower priority queue has expired.

55. (New) The method of claim 49 wherein forwarding each received packet according to both the priority of the queue in which the packet was stored and any expired timeout interval comprises:

forwarding a packet stored in the high priority queue when the high priority queue contains packets to be forwarded and no time interval has expired;

preempting the high priority queue and forwarding a packet stored in an intermediate priority queue when the intermediate priority queue contains packets to be forwarded and the timeout interval corresponding to the intermediate priority queue has expired; and

preempting both the high priority queue and the intermediate priority queue, and forwarding a packet stored in a low priority queue when the low priority queue contains packets to be forwarded and the timeout interval corresponding to the low priority queue has expired.

56. (New) The method of claim 49 wherein a received packet is compliant with the Ethernet protocol standard.

57. (New) The method of claim 49 wherein a received packet is compliant with the Infiniband protocol standard.

58. (New) The method of claim 49 wherein the plurality of queues correspond to a plurality of discrete storage arrays, wherein each discrete storage array of the plurality of discrete storage arrays corresponds to one of the plurality of queues.

59. (New) The method of claim 49 wherein the plurality of queues correspond to a plurality of logical storage arrays and wherein each logical storage array of the plurality of logical storage arrays corresponds to one of the plurality of queues.

60. (New) The method of claim 59 further comprising dynamically allocating memory resources to each queue of the plurality of queues.

61. (New) The method of claim 60 wherein dynamically allocating memory resources to each queue of the plurality of queues comprises:

maintaining a list of free buffers for each queue, wherein each list of free buffers comprises a plurality of pointers to memory locations that are available to store packets assigned to the corresponding queue, wherein each pointer has a corresponding size parameter that specifies the size of the memory location indicated by the pointer; and

maintaining a list of used buffers for each queue, wherein each list of used buffers comprises a plurality of pointers to memory locations that are being used to store packets that have been assigned to the corresponding queue, wherein each pointer has a corresponding size parameter that specifies the size of the memory location indicated by the pointer.

62. (New) The method of claim 61, wherein each size parameter is programmable to allow for different buffers corresponding to the pointers in the plurality of free buffer lists and used buffer lists to vary in size.

63. (New) The method of claim 61 further comprising:

after forwarding a packet out of a queue, assigning the memory space associated with the forwarded packet from the used buffer list of the corresponding queue to the free buffer list of the one queue of the plurality of queues having the least quantity of free buffers in its free buffer list.

64. (New) The method of claim 61 further comprising:

after forwarding a packet out of a queue, assigning the memory space associated with the forwarded packet from the used buffer list of the corresponding queue to the free buffer list of the one queue of the plurality of queues having the greatest quantity of packets forwarded over a measured timeframe.

65. (New) A system for managing packet transmission in a computer system comprising:

a download engine for

receiving a plurality of packets from a computer host memory, wherein each packet has a header provided by a process running on a host processor;

reading at least one quality of service parameter from the header of each received packet; and

storing each packet into one of a plurality of queues according to the quality of service parameter;

a transmit packet buffer for maintaining the plurality of queues, wherein each queue has a respective priority, wherein one of the plurality of queues is a high priority queue, wherein each queue of the plurality of queues other than the high priority queue has a corresponding timeout interval, and whereupon expiration of a timeout interval will cause a packet stored in the queue corresponding to the expired timeout interval to be forwarded out of the transmit packet buffer ahead of packets stored in any other queue; and

a transmit engine for forwarding each received packet from the transmit packet buffer to a network medium according to both the priority of the queue in which the packet was stored and any expired timeout interval corresponding to any queue.

66. (New) The system of claim 65 wherein the download engine:

stores high priority packets into the high priority queue; and

stores low priority packets into a low priority queue.

67. (New) The system of claim 65 wherein the download engine:

stores high priority packets into the high priority queue;

stores intermediate priority packets into an intermediate priority queue; and

stores low priority packets into a low priority queue.

68. (New) The system of claim 65 wherein the download engine is a Direct Memory Access download engine.

69. (New) The system of claim 65 wherein the transmit engine:

preempts packet forwarding from the high priority queue and forwards a packet stored in a lower priority queue when the timeout interval corresponding to the lower priority queue has expired.

70. (New) The system of claim 65 wherein the transmit engine:

preempts packet forwarding from one or more higher priority queues and forwards a packet stored in a lower priority queue when the timeout interval corresponding to the lower priority queue has expired.

71. (New) The system of claim 65 wherein the transmit engine:

forwards a packet stored in the high priority queue when the high priority queue contains packets to be forwarded and no time interval has expired;

preempts the high priority queue and forwards a packet stored in an intermediate priority queue when the intermediate priority queue contains packets to be forwarded and the timeout interval corresponding to the intermediate priority queue has expired; and

preempts both the high priority queue and the intermediate priority queue, and forwards a packet stored in a low priority queue when the low priority queue contains packets to be forwarded and the timeout interval corresponding to the low priority queue has expired.

72. (New) The system of claim 65 wherein a received packet is compliant with the Ethernet protocol standard.

73. (New) The system of claim 65 wherein a received packet is compliant with the Infiniband protocol standard.

74. (New) The system of claim 65 wherein the transmit packet buffer comprises a plurality of discrete storage arrays and wherein each discrete storage array of the plurality of discrete storage arrays corresponds to one of the plurality of queues.

75. (New) The system of claim 65 wherein the transmit packet buffer comprises a plurality of logical storage arrays and wherein each logical storage array of the plurality of logical storage arrays corresponds to one of the plurality of queues.

76. (New) The system of claim 75 wherein memory space in the transmit packet buffer is dynamically allocated to each queue of the plurality of queues.

77. (New) The system of claim 76 further comprising:

a plurality of free buffer registers, wherein each free buffer register corresponds to one of the plurality of queues, wherein each free buffer register maintains a list of free buffers for its corresponding queue, wherein each list of free buffers comprises a plurality of pointers to memory locations in the transmit packet buffer that are available to store packets assigned to the corresponding queue, wherein each pointer has a corresponding size parameter that specifies the size of the memory location indicated by the pointer; and

a plurality of used buffer registers, wherein each used buffer register corresponds to one of the plurality of queues, wherein each used buffer register maintains a list of used buffers for its corresponding queue, wherein each list of used buffers comprises a plurality of pointers to memory locations in the transmit packet buffer that are being used to store packets that have been assigned to the corresponding queue, wherein each pointer has a corresponding size parameter that specifies the size of the memory location indicated by the pointer.

78. (New) The system of claim 77, wherein each size parameter is programmable to allow for different buffers corresponding to the pointers in the plurality of free buffer lists and used buffer lists to vary in size.

79. (New) The system of claim 77 further comprising:

a manager for assigning the transmit packet buffer memory space corresponding to a previously forwarded packet from the used buffer list of the queue corresponding to the previously forwarded packet to the free buffer list of the one queue of the plurality of queues having the least quantity of free buffers in its free buffer list.

80. (New) The system of claim 77 further comprising:

a manager for assigning the transmit packet buffer memory space corresponding to a previously forwarded packet from the used buffer list of the queue corresponding to the previously forwarded packet to the free buffer list of the one queue of the plurality of queues having the greatest quantity of packets forwarded over a measured timeframe.

81. (New) A computer readable media with instructions to cause a microprocessor to perform the steps of:

receive a plurality of packets from a computer host memory, wherein each packet has a header provided by a process running on a host processor;

read at least one quality of service parameter from the header of each received packet;

store each received packet into one of a plurality of queues according to the quality of service parameter, wherein each queue has a respective priority, wherein one of the plurality of queues is a high priority queue, wherein each queue of the plurality of queues other than the high priority queue has a corresponding timeout interval, and whereupon expiration of a timeout interval will cause a packet stored in the queue corresponding to the expired timeout interval to be forwarded ahead of packets stored in any other queue; and

forward each received packet to a network medium according to both the priority of the queue in which the packet was stored and any expired timeout interval.

II. REMARKS

In the Office Action mailed on October 18, 2006, the Examiner: (1) rejected claims 1, 5-17, 21-33, and 37-48 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,728,265 to Yavatkar et al. (hereinafter "Yavatkar") in view of U.S. Patent No. 6,052,375 to Bass et al. (hereinafter "Bass"); and (2) objected to claims 2-4, 18-20, and 34-36 as being dependent upon a rejected base claim, but indicated that these claims "would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims" because "the prior art [alone] or in combination fails to teach or make obvious the limitations" recited in the objected to claims. (Office Action, page 3, 8-9) Applicants thank the Examiner for indicating the allowable subject matter.

A. Response to Examiner's Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 5-17, 21-33, and 37-48 under 35 U.S.C. § 103(a) as being unpatentable over Yavatkar in view of Bass. (Office Action, page 3) Applicants have cancelled all the previously pending claims and submitted new claims, thereby rendering moot the Examiner's rejections under 35 U.S.C. § 103(a) as set forth in the October 18, 2006 Office Action.

III. CONCLUSION

Applicants request reconsideration of the present application and submit that the New claims are in condition for allowance. Should the Examiner feel that further dialog would advance the subject application to issuance, the Examiner is invited to telephone the undersigned at (312) 913-3305.

Respectfully submitted,
McDonnell Boehnen Hulbert & Berghoff LLP

Date: May 14, 2007

By: /Robert J. Irvine III/
Robert J. Irvine III
Registration No. 41,865